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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/978,326	10/16/2001	James J. Xu	19763/82069	4458

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Barnes & Thornburg
600 One Summit Square
Fort Wayne, IN 46802

EXAMINER

RIBAR, TRAVIS B

ART UNIT	PAPER NUMBER
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1711

DATE MAILED: 01/15/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/978,326

Applicant(s)

XU, JAMES J.

Examiner

Travis B Ribar

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 6-13 and 15-20 is/are rejected.
- 7) ☒ Claim(s) 5 and 14 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-4, 6-13, and 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hsu et al. ('747) in view of the combined teachings of Chihara et al. and Charrier.

Hsu et al. ('747) discloses a composition used for coating wires (column 5, line 22) that includes diols (column 2, lines 54-59), triols (column 2, lines 60-64), diisocyanates (column 2, lines 50-53), and trimellitic anhydride and/or diacids (column 2, lines 45-49). The composition therefore meets the restrictions of claims 1-4, 6, 10-13, and 15. Hsu et al. ('747) does not, however, disclose the use of polytetrafluoroethylene (PTFE) or mineral filler in the composition.

Chihara et al. discloses both PTFE and mineral filler in coating compositions (column 7, line 29), meeting this limitation of claims 1, 7, 9-10, and 16-17. They are used as compounding additives that make the processing of the composition easier. Further, it is known in the art that the melting point of PTFE is approximately 324 °C (see Charrier), so Chihara et al. inherently includes the limitations of claim 8.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to add PTFE and mineral filler to the composition in Hsu et al. ('747). The

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motivation for doing so would be to aid in the processing of the composition. Therefore it would have been obvious to combine Chihara et al. and Charrier with Hsu et al. ('747) to obtain the invention as specified in claims 1-4, 6-13, and 15-17.

3. Claims 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hsu et al. ('747) in view of the combined teachings of Chihara et al. and Charrier as applied to claims 1-4, 6-13, and 15-17 above, and further in view of Matsuura et al.

The combination of Hsu et al. ('747), Chihara et al., and Charrier was discussed earlier in this office action. The combined teachings of those references, however, do not teach the inclusion of a primer layer between a coated wire and the coating composition.

Matsuura et al. discloses an insulated wire that uses either polyamideimide or polyester (column 8, lines 19-24) as a primer layer (the applicant's base layer). This fulfills the limitations of claims 18-20 and such layers are commonly employed to improve the adhesion between the wire substrate and the coating.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use a primer layer such as those taught by Matsuura et al. when coating a wire with the coating composition taught by the combined teachings of Hsu et al. ('747), Chihara et al., and Charrier. The motivation for doing so would be to improve the adhesion between the wire substrate and the coating layer. Therefore it would have been obvious to combine Matsuura et al. with Hsu et al. ('747), Chihara et al., and Charrier to obtain the invention as specified in claims 18-20.

4. Claims 1-4, 6-13, and 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hsu et al. ('747) in view of the combined teachings of Markusch et al., Roitman et al., and Charrier.

Hsu et al. ('747) discloses a composition used for coating wires (column 5, line 22) that includes diols (column 2, lines 54-59), triols (column 2, lines 60-64), diisocyanates (column 2, lines 50-53), and trimellitic anhydride and/or diacids (column 2, lines 45-49). The composition therefore meets the restrictions of claims 1-4, 6, 10-13, and 15. Hsu et al. ('747) does not, however, disclose the use of PTFE or mineral filler in the composition.

Roitman et al. discloses urethane coatings that use PTFE filler (column 4, lines 59-60), meeting this aspect of claims 1, 7, 10, and 16. Since it is known in the art that the melting point of PTFE is approximately 324 °C (see Charrier), Roitman et al. also inherently includes the limitations of claim 8.

Markusch et al. teaches titanium dioxide filler in compositions (column 8, line 18), meeting that part of claims 1, 9-10, and 17. Such fillers (PTFE and titanium dioxide) are commonly used to alter the processing conditions of the composition or to reduce the cost of such compositions.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to add PTFE and mineral filler to the composition in Hsu et al. ('747). The motivation for doing so would be to aid in the processing of the composition or to reduce the cost of the composition. Therefore it would have been obvious to combine

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Markusch et al., Roitman et al., and Charrier with Hsu et al. ('747) to obtain the invention as specified in claims 1-4, 6-13, and 15-17.

5. Claims 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hsu et al. ('747) in view of the combined teachings of Markusch et al., Roitman et al., and Charrier as applied to claims 1-4, 6-13, and 15-17 above, and further in view of Matsuura et al.

The combination of Hsu et al. ('747), Markusch et al., Roitman et al., and Charrier was discussed earlier in this office action. The combined teachings of those references, however, do not teach the inclusion of a primer layer between a coated wire and the coating composition.

Matsuura et al. discloses an insulated wire that uses either polyamideimide or polyester (column 8, lines 19-24) as a primer layer (the applicant's base layer). This fulfills the limitations of claims 18-20 and such layers are commonly employed to improve the adhesion between the wire substrate and the coating.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use a primer layer such as those taught by Matsuura et al. when coating a wire with the coating composition taught by the combined teachings of Hsu et al. ('747), Markusch et al., Roitman et al., and Charrier. The motivation for doing so would be to improve the adhesion between the wire substrate and the coating layer. Therefore it would have been obvious to combine Matsuura et al. with Hsu et al. ('747),

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Markusch et al., Roitman et al., and Charrier to obtain the invention as specified in claims 18-20.

6. Claims 1-4, 6-13, and 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hsu et al. ('213) in view of the combined teachings of Hsu et al. ('747), Chihara et al. and Charrier.

Hsu et al. ('213) discloses a composition used for coating wires (column 2, line 58) that includes diols (column 3, lines 31-32), diisocyanates (column 3, lines 27-28), and trimellitic anhydride and/or diacids (column 3, lines 22 and 35). The composition therefore meets those restrictions of claims 1-4 and 10-13. Hsu et al. ('213) does not, however, disclose the use of trifunctional hydroxy compounds, polytetrafluoroethylene (PTFE), or mineral filler in the composition.

Chihara et al. discloses both PTFE and mineral filler in coating compositions (column 7, line 29), meeting this limitation of claims 1, 7, 9-10, and 16-17. They are used as compounding additives that make the processing of the composition easier. Further, it is known in the art that the melting point of PTFE is approximately 324 °C (see Charrier), so Chihara et al. inherently includes the limitations of claim 8.

Hsu et al. ('747) discloses the trihydroxy compound (column 2, lines 60-64) the applicant claims in claims 1, 6, 10 and 15 and teaches that those compounds are useful in creating wire coating compositions with good electrical properties and high heat resistance (column 5, lines 19-29).

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At the time of the invention, it would have been obvious to a person of ordinary skill in the art to add PTFE and mineral filler to the composition in Hsu et al. ('213). The motivation for doing so would be to aid in the processing of the composition. It also would have been obvious to add the trihydroxy compound in Hsu et al. ('747) to the composition. The motivation for doing so would be to increase the electrical properties of the coating as well as its heat resistance. Therefore it would have been obvious to combine Chihara et al., Charrier, and Hsu et al. ('747) with Hsu et al. ('213) to obtain the invention as specified in claims 1-4, 6-13, and 15-17.

7. Claims 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hsu et al. ('213) in view of the combined teachings of Chihara et al., Charrier, and Hsu et al. ('747) as applied to claims 1-4, 6-13, and 15-17 above, and further in view of Matsuura et al.

The combination of Hsu et al. ('213), Chihara et al., Charrier, and Hsu et al. ('747) was discussed earlier in this office action. The combined teachings of those references, however, do not teach the inclusion of a primer layer between a coated wire and the coating composition.

Matsuura et al. discloses an insulated wire that uses either polyamideimide or polyester (column 8, lines 19-24) as a primer layer (the applicant's base layer). This fulfills the limitations of claims 18-20 and such layers are commonly employed to improve the adhesion between the wire substrate and the coating.

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At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use a primer layer such as those taught by Matsuura et al. when coating a wire with the coating composition taught by the combined teachings of Hsu et al. ('213), Chihara et al., Charrier, and Hsu et al. ('747). The motivation for doing so would be to improve the adhesion between the wire substrate and the coating layer. Therefore it would have been obvious to combine Matsuura et al. with Hsu et al. ('747), Chihara et al., Charrier, and Hsu et al. ('747) to obtain the invention as specified in claims 18-20.

8. Claims 1-4, 6-13, and 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hsu et al. ('213) in view of the combined teachings of Markusch et al., Roitman et al., Charrier, and Hsu et al. ('747).

Hsu et al. ('213) discloses a composition used for coating wires (column 2, line 58) that includes diols (column 3, lines 31-32), diisocyanates (column 3, lines 27-28), and trimellitic anhydride and/or diacids (column 3, lines 22 and 35). The composition therefore meets those restrictions of claims 1-4 and 10-13. Hsu et al. ('213) does not, however, disclose the use of trifunctional hydroxy compounds, polytetrafluoroethylene (PTFE), or mineral filler in the composition.

Roitman et al. discloses urethane coatings that use PTFE filler (column 4, lines 59-60), meeting this aspect of claims 1, 7, 10, and 16. Since it is known in the art that the melting point of PTFE is approximately 324 °C (see Charrier), Roitman et al. also inherently includes the limitations of claim 8.

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Markusch et al. teaches titanium dioxide filler in compositions (column 8, line 18), meeting that part of claims 1, 9-10, and 17. Such fillers (PTFE and titanium dioxide) are commonly used to alter the processing conditions of the composition or to reduce the cost of such compositions.

Hsu et al. ('747) discloses the trihydroxy compound (column 2, lines 60-64) the applicant claims in claims 1, 6, 10 and 15 and teaches that those compounds are useful in creating wire coating compositions with good electrical properties and high heat resistance (column 5, lines 19-29).

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to add PTFE and mineral filler to the composition in Hsu et al. ('213). The motivation for doing so would be to aid in the processing of the composition or to reduce the cost of the composition. It also would have been obvious to add the trihydroxy compound in Hsu et al. ('747) to the composition. The motivation for doing so would be to increase the electrical properties of the coating as well as its heat resistance. Therefore it would have been obvious to combine Markusch et al., Roitman et al., Charrier, and Hsu et al. ('747) with Hsu et al. ('213) to obtain the invention as specified in claims 1-4, 6-13, and 15-17.

9. Claims 18-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hsu et al. ('213) in view of the combined teachings of Markusch et al., Roitman et al., Charrier, and Hsu et al. ('747) as applied to claims 1-4, 6-13, and 15-17 above, and further in view of Matsuura et al.

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The combination of Hsu et al. ('213), Markusch et al., Roitman et al., Charrier, and Hsu et al. ('747) was discussed earlier in this office action. The combined teachings of those references, however, do not teach the inclusion of a primer layer between a coated wire and the coating composition.

Matsuura et al. discloses an insulated wire that uses either polyamideimide or polyester (column 8, lines 19-24) as a primer layer (the applicant's base layer). This fulfills the limitations of claims 18-20 and such layers are commonly employed to improve the adhesion between the wire substrate and the coating.

At the time of the invention, it would have been obvious to a person of ordinary skill in the art to use a primer layer such as those taught by Matsuura et al. when coating a wire with the coating composition taught by the combined teachings of Hsu et al. ('213), Markusch et al., Roitman et al., Charrier, and Hsu et al. ('747). The motivation for doing so would be to improve the adhesion between the wire substrate and the coating layer. Therefore it would have been obvious to combine Matsuura et al. with Hsu et al. ('213), Markusch et al., Roitman et al., Charrier, and Hsu et al. ('747) to obtain the invention as specified in claims 18-20.

Allowable Subject Matter

10. Claims 5 and 14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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11. The following is a statement of reasons for the indication of allowable subject matter: The closest prior art is Hsu et al. ('747), which does not disclose the use of diphenylsilanediol, which the applicant claims in claims 5 and 14. It is the examiner's position that the inclusion of such a diol in the compound that the applicant claims provides a novel and nonobvious contribution over the prior art.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Chen et al. discloses a heat resistant composition including trimellitic anhydride, aliphatic diisocyanates, and diols.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Travis B Ribar whose telephone number is (703) 305-3140. The examiner can normally be reached on 8:30-5:00 Monday through Friday.

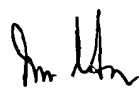
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on (703) 308-2462. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

Travis B Ribar
Examiner
Art Unit 1711

TBR
December 2, 2002



James J. Seidleck
Supervisory Patent Examiner
Technology Center 1700